REMARKS

Claims 1-15, and 17-24 are presently pending, and claims 16, and 25-27 have been cancelled. Claims 1, 17, and 22 have been amended. The amendment to the claims is supported by the specification and do not add new matter.[1] The applicants respectfully request the examiner to consider the following remarks in light of the presently pending claims.

I. 35. U.S.C. §112, First Paragraph Rejections

Claims 25 to 27 were rejected under 35 U.S.C. § 112, first paragraph as not being fully enabled by the specification. These claims have been cancelled. As such, this rejection is moot and should be withdrawn.

II. 35. U.S.C. §112, Second Paragraph Rejections

Reconsideration is respectfully requested of the rejection of claim 1-24 under 35 U.S.C. § 112, second paragraph. The Office has rejected the claims as indefinite in view of the word "sterile." Per the claim amendments, this word has been deleted. In view of the amendment, claims 1-24 are definite, and the rejection is moot.

Claim 14 was rejected because the Office asserts that the phrase "dosage unit" renders the claim indefinite because no "sample" is recited. Specifically, claim 14 recites "said composition comprises one or more dosage unit." No sample is involved. Rather, claim 14 is directed to how the "composition" itself is packaged. As stated in the specification, "the vaccine composition may be provided in units of doses. For example, the composition may be provided in 10 vials, with 1000 doses per vial."[2] In view of the specification, claim 14 is definite.

Claim 16 was rejected on the asserted basis that the phrase "substantially free" renders the claim indefinite because the term is "not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the

[1] Support for the amendment to claims 1 may be found at claim 16. The amendment to claims 17 and 22 correct claim dependency and provide proper antecedent basis, respectively.
[2] See the specification, page 15, paragraph 175.

invention." This is not correct. The specification provides precise guidance regarding the meaning of "substantially free" when this phrase is used in conjunction with "bacterial contamination." The specification specifically dictates:

> ...[t]he term "bacterial contamination" or "bacterial contaminants" as used herein means all extraneous bacterial contaminants, whether live, virulent, and infectious, or life-less or non-virulent, including cell debris derived from such extraneous bacterial contamination. "Substantially free of bacterial contamination" means below the level that can create a pyrogenic reaction when the vaccine of the invention is administered to poultry. Methods for determining whether a pyrogenic reaction occurs are well known in the art. In any event, a composition is substantially free of bacterial contamination when no bacterial contaminants, as defined herein, are visible on microscopic examination of the composition, wherein the detection limit [of the microscope utilized] is at least about 1,100 bacteria per milliliter."[3]

Per the specification, a composition is "substantially free" of bacterial contamination if the amount of contamination is below the level that causes a pyrogenic reaction in poultry. In addition, a composition is "substantially free" when no bacterial contaminants are visible via microscopic examination using a microscope with the recited detection limit. In view of its precise definition within the specification, a skilled artisan can readily determine the scope of a claim that recites "substantially free of bacterial contamination." While claim 16 has been cancelled (i.e., rendering its rejection moot), claim 1 has been amended to recite "substantially free of bacterial contamination."

In view of the foregoing, the Applicants respectfully request withdrawal of the §112, second paragraph rejections of claims 1-15, and 17-24.

[3] See the specification, page 3, paragraph 0066.

III. 35. U.S.C. § 102 Rejection

Claim 25 was rejected under 35 U.S.C. §102 (e) in view of either U.S. Patent No. 4,863,731 ('731 patent) or in view of U.S. Patent No. 6,146,838 ('838 patent). Because claim 25 has been cancelled, this rejection is moot and should be withdrawn.

IV. 35. U.S.C. § 103 Rejections

For the reasons detailed below, all pending claims are not rendered obvious by any single reference, or combination of references cited by the Office.

(a) Claims 1-7, 11-12, 17-19 and 21 are not rendered obvious by the cited art

Reconsideration is requested of the rejection of claims 1-7, 17-19, and 21 under 35 U.S.C. 103 (a) in view of U.S. Patent No. 4,808,404 ('404 patent) in combination with Smith et al.[4]

Three criteria must be present to establish a *prima facie* case of obviousness.[5] First, the prior art reference must teach or suggest all the claim limitations. Second, there must be some suggestion or motivation in the knowledge generally available to one of ordinary skill in the art to modify the reference. Third, there must be a reasonable expectation of success.[6] Not one of these three criteria is satisfied by the disclosure of either the '404 patent or Smith et al. when considered singly or in combination.

Amended claim 1 requires a composition comprising sporulated *oocysts,* a pharmaceutically acceptable carrier, diluent, or excipient, and at least one surfactant capable of preventing aggregation of the oocysts. Claim 1 additionally requires the composition to be substantially free of bacterial contamination.

The '404 patent is asserted by the Office to disclose a composition comprising sporulated oocysts of *Eimeria* known to cause coccidiosis. While this

[4] Smith et al., Parasitology (1998) 117 :S113-S141.
[5] MPEP §2143.
[6] *Id.*

may be true, the '404 patent does not disclose use of sporulated oocysts as a final component of an anti-coccidiosis composition, as required by claim 1. Rather the '404 patent discloses the use of sporulated oocysts as a precursor from which the sporozoites are isolated. The '404 patent teaches the use of "live coccidial **sporozoites**" in vaccine compositions. Sporoites are structurally and functionally distinguishable from oocysts.[7] In fact, the '404 patent **teaches away** from the use of sporulated oocysts in vaccine compositions. The '404 patent specifically dictates:

> ...[s]ince the severity of disease is directly proportional to the number of sporulated oocysts in the field available for ingestion, existing vaccines based on either feeding sporulated oocysts or feeding microencapsulated ***oocysts have limited utility*** for the broiler chicken industry, in that the high numbers of oocysts available for ingestion from day one often causes severe infections. As a result, the use of oral vaccines as such often necessitates the use of anticoccidials. Therefore, the ***use of sporulated oocysts as live vaccines have limited application***.[8]

It is incumbent upon the Office to consider a cited reference in its entirety, including disclosure that teaches away from a claimed invention.[9] Taken in its entirety, the '404 patent discloses that sporozoites may be isolated from oocysts for use of the sporozoites in vaccine formulations, and that "use of sporulated oocysts as live vaccines have limited application." Not only does the '404 patent not teach all of the limitations required by claim 1 (i.e., anti-coccidiosis compositions comprising sporulated oocysts), it expressly teaches away from use of sporulated oocysts. Moreover, nowhere does the '404 patent disclose or suggest either the use of surfactants in combination with sporulated oocysts or compositions that are substantially free of bacterial contamination, both of which are required by claim 1.

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[7] A sporolated oocysts contains four sporocyst and each contains two sporozoites (see column 1, paragraphs 003 and 004, of the presently pending application).
[8] '404 patent, column 3, lines 46 to 56 (emphasis added).
[9] *W.L. Gore & Associates, Inc., v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983).

The defect in the Office's obviousness rejection is not cured by resort to Smith et al. Smith et al. generally discloses detection of parasites in several environmental sources. In one passage of the article, Smith et al. disclose methods for detection of protozoan oocysts in water. One apparent problem encountered by Smith et al. in their method is that the oocysts aggregate with each other and other particulates in the water sample, thus, making detection of the oocysts in the sample difficult or inaccurate. The reference discloses that surfactants may be utilized to reduce oocyst aggregation with each other and with other particles in the water sample to aide in oocyst detection by "maintain[ing] oocysts as individual organisms."

Nowhere, however, do Smith et al. disclose or suggest use of sporulated oocysts in combination with a surfactant, as required by claim 1. In fact, the oocysts disclosed in Smith et al. are structurally distinguishable from the oocyst required by claim 1 because the Smith et al. oocysts are not sporulated. As described in the present application, oocysts "sporulation" results from subjecting the oocysts to an oxidative challenge (e.g., potassium dichromate, oxygen, or sodium hypochlorite).[10] As a result of oxidative challenge, the surface of the sporulated oocysts changes exposing previously "hidden" lipids that are constituents of the cell membrane.[11] The native oocysts disclosed in Smith et al., as such, are distinguishable from the sporulated oocysts required by claim 1.

According to the Office, however, it would have been *prima facie* obvious to include a surfactant as disclosed by Smith et al. in the composition of the '404 patent. Per the Office, a skilled artisan would have been motivated to make this combination because Smith et al. "teach that detergents such as Tween 20, Tween 80, and Hyamine is beneficial in discouraging parasite ova from clumping."[12] This is not correct. A skilled artisan would not be motivated to combine the disclosures of the '404 patent and Smith et al. to arrive at the invention defined by claim 1. The '404 patent discloses the use of sporozoites in vaccine compositions and expressly

[10] Presently pending application, at column 9, paragraph 0130.
[11] Some of the exposed lipids are hydrophobic, thus increasing the aggregation of the sporulated oocysts when compared to non sporulated oocysts.
[12] See office action dated May 7, 2007 at page 16.

teaches away from the use of sporulated oocysts, as required by claim 1; and the Smith et al. reference disclose the use of a surfactant to prevent native oocysts from aggregating in order to enhance their detection in water. Even if the disclosures of the '404 patent and Smith et al are combined; a skilled artisan would not arrive at the invention defined by claim 1. Simply put, both Smith et al. and the '404 patent disclose compositions that are structurally distinguishable from the sporulated oocysts of claim 1, and furthermore, the '404 patent specifically teach against the use of sporulated oocysts in vaccine compositions. As stated in MPEP § 2143, where there is no motivation to modify a reference as proposed, the proposed modification is not obvious.

Moreover, the Office erroneously cited Smith et al. In order to rely on a reference in an obvious rejection, it must be analogous prior art. In this context, for a reference to be properly be used by the Office as the basis for an obviousness rejection, the reference must be either in the field of the Applicants' endeavor or it must be reasonably pertinent to the particular problem with which the Applicant was concerned.[13] Against the backdrop of this legal standard, Smith et al. is not analogous prior art. Smith et al. is neither in the field of applicant's endeavor nor reasonably pertinent to the particular problem the present Applicants' solved. Smith et al.'s field is analytical detection of parasites in water samples; whereas the field of the present invention is vaccines for use in living organisms. To facilitate parasite detection, Smith added surfactants to prevent aggregation of the parasites in the water sample. For Smith et al's purpose it did not matter if the surfactant harmed the oocysts because after the detection method was completed the sample, including the oocysts, were simply discarded.

The present inventors, in contrast to Smith et al., solved the problem of sporulated oocysts aggregation in **vaccine compositions** by introducing a surfactant. The problem encountered by Smith et al. in their detection method is not the same concerns facing the vaccine art. Simply put, viability was a big problem encountered by the present inventors that Smith et al. did not face. In particular, to

[13] In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).

successfully be utilized in the vaccine compositions of the present invention, the surfactant could not cause harm to the bird to which it was administered, could not harm the therapeutic effectiveness of the sporulated oocytes themselves (i.e., by breaking them down rapidly or slowly over the lifetime of the vaccine), and the surfactant had to be stable over the lifetime of the vaccine composition. None of these issues confronted Smith et al. If the surfactant didn't work in the case of Smith et al. detection or counting errors may result. If the surfactant didn't work in the case of the present invention, however, it may result in death of birds, dosing issues (i.e., over dosing or under dosing), and/or vaccines with shortened therapeutic life. Thus, the ordinary and straightforward problem encountered by Smith et al. of using a surfactant in a water sample cannot be properly applied to the assortment of considerations necessary for vaccine formulations. Because Smith et al. is neither in the field of the Applicants' endeavor (i.e., analytical detection art versus the vaccine art) nor reasonably pertinent to the particular problem, it cannot properly be used by the Office as a reference against claim 1 of the present invention.

Even if Smith et al. could properly be used as a reference and combined with the '404 patent, there is no reasonable expectation of success provided by the proposed combination. In view of the combined reference teachings there is no basis to believe that the surfactant taught by Smith et al. could be successfully added to the live sporozoite composition of the '404 patent without harming the viability of the sporozoites, without harming the therapeutic effectiveness of the sporozioites, and without harming the animal to which the vaccine is administered. Several references, in fact, disclose cases in which either a surfactant alone or addition of surfactant to vaccines changes the therapeutic properties of the vaccine itself and/or harms the organism to which the vaccine is administered.[14] Without the

[14] Rafati et al., "The immune response to model antigen associated with PLG microparticles prepared using different surfactants" Vaccine (1997) 15(17-18):1888-97, where the use of various surfactants was found to change the immune response of the antibody composition. The degree of change varied with the surfactant. Vieira et al., "Cationic lipids and surfactants as antifungal agents: mode of action" J. Antimicrobial Chemotherapy (2006) 58:760-767, where cationic surfactants were shown to have antifungal effect. Owen et al., "The effects of surfactants on cell aggregation" J. Cell Sci (1978) 32:363-376, where certain concentrations of surfactants were shown to have cytotoxic effects; Yang

benefit of the Applicants' patent application, a skilled artisan would not have combined the cited art because there is no reasonable expectation that if the references had been combined a successful vaccine would have resulted.

Because the references relied on by the Office do not disclose or suggest the presently claimed composition comprising viable sporulated oocysts and surfactants, the Office appears to be applying "hindsight reconstruction" by using the teaching of the Applicants' patent application as a guide for searching, and analyzing the references in the right way to arrive at the claims at issue.[15] Such hindsight reconstruction is clearly contrary to the law.[16] The Office has simply not set-forth any sufficient art-based rationale as to why a person of skill in the art would have been motivated to modify the sporozoite compositions as taught by the '404 patent and combine it with the surfactants as taught by Smith et al. to arrive at the composition recited in claim 1. The mere identification in the prior art of each component of a composition **does not** show that the combination as a whole is obvious.[17] Rather, to establish a *prima facie* case of obviousness based on a combination of elements in the prior art, the law requires a motivation to select the references and **to combine them in the particular claimed manner to reach the claimed invention**.[18] Without this demonstration of the requisite motivation to make the Office's proposed modification, a *prima facie* case of obvious has not been established.

In view of the foregoing, the Applicants respectfully request withdrawal of the obviousness rejection of claim 1. Claims 2-15, and 17-24, which depend from claim 1, are likewise not obvious in view of the cited art for the reasons provided with respect to claim 1.

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et al., "Cell death induced by vaccine adjuvants containing surfactant" Vaccine (2004) 22:1524-1536, where vaccines containing surfactants were shown to induce cell death. Copies of each reference are being submitted with this response.

[15] See *Orthopedic Equipment Co. v. United States*, 217 U.S.P.Q 193 (Fed. Cir. 1983).

[16] See *In re Dow Chemical*, 5 U.S.P.Q.2d 1529 (Fed. Cir. 1988).

[17] *In re Kahn*, 441 F.3d 977, 986 (Fed. Cir. 2006) (citing *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

[18] *Id.*

(b) Claims 1-7, 11-15, 17-19 and 21 are not rendered obvious by the cited art

Reconsideration is requested of the rejection of claims 1-7, 11-15, 17-19, and 21 under 35 U.S.C. 103 (a) in view of WO 96/40233 ('233 application) in combination with Smith et al.

The '233 application discloses the use of oocysts in vaccines that are formulated for injection *in ovo*, i.e., injection directly into the bird egg. As a part of their process, the '233 application discloses that the oocysts are sporulated by contacting them with potassium dichromate. The oocysts are further contacted with bleach, and "repeated washings" remove the bleach. The oocysts are then formulated for vaccines.

Resort to the '233 application does not render claim 1 obvious when taken singly or in combination with Smith et al. Claim 1, in contrast to the '233 vaccine composition, requires the composition comprising sporulated oocysts is "substantially free of bacterial contamination." To be "substantially free of bacterial contamination," as this term is used in claim 1 of the present application, the composition is free from bacterial contaminants, which include "live, virulent, and infectious, or life-less or non-virulent, including cellular debris derived from such extraneous contaminants." In this context, the "bacterial contaminants" are separated from the composition of claim 1. These bacterial contaminants are removed from the recited composition by tangential flow filtration of an aqueous medium containing the oocysts and the bacterial contaminants using a filter membrane having a pore size that does not allow the oocysts to enter, but that allows the bacterial contaminants to pass through.[19] As a consequence, the composition of claim 1 is not only substantially free of live bacteria that can be killed by sodium dichromate, but is also substantially free of dead bacteria and cellular debris that are derived from the source and remain in a vaccine composition after chemical treatment.

According to the Office, however, the vaccine composition disclosed by the '233 application is "substantially free of bacterial contamination." This is not correct.

[19] See column 12, paragraphs 147 to 150, of the present application.

At best, the disclosure of the '233 application indicates that a portion of bacterial contaminants may be killed, but are not likely removed in any significant quantity. In particular, the oocysts composition disclosed in the '233 application is exposed to Clorox (to kill bacterial contaminants) and then this Clorox is removed by "repeated washings." The oocysts are then resuspended and formulated into a vaccine. Per the '233 application's disclosure, no processes are preformed to ensure that bacterial contaminants are separated from the oocysts. Importantly, "repeated washings" would not remove substantially all bacterial contaminants. Significantly, the '233 application fails to disclose or suggest the use of a filter pore size small enough to prevent the sporulated oocysts from entering the pores, but large enough to allow bacteria to pass through the pores.

Furthermore, it is important to understand that "bacterial contaminants," as recited in claim 1 encompasses not only live bacteria, but also non-viable contaminants such as dead bacteria and cellular debris that remain after treatment with an antibacterial agent. In contrast, while the treatment according to the '233 application may be effective for killing bacteria (e.g., treatment with Clorox), nowhere does this reference disclose or suggest removal of non-viable bacteria or bacteria debris (or any remaining live bacteria). Nor would the washings described by the '233 application inherently remove non-viable bacteria or bacterial debris. Moreover, there is no recognition anywhere in the '233 application that it would even be desirable to separate oocysts from non-viable bacteria or bacterial debris that may be present in the composition during processing. Perhaps this is due to the fact that the vaccine disclosed in the '233 application was not being administered directly to the bird (i.e., they were being injected in an egg) and as such, pyrogenic reactions that may result from bacterial contaminants may not have been a concern. Irrespective of the reason, however, the composition of the '233 patent comprises a greater amount of non-viable bacteria contaminants than the composition of claim 1. The compositions of claim 1, as such, are structurally distinguishable from the compositions disclosed in the '233 application because they are more pure. As

stated by the Court in *In re Bergstrom* "by definition, pure materials necessarily differ from less pure or impure materials."[20]

The degree of purity, which distinguishes the composition of claim 1 from the composition disclosed by the '233 application, is not trivial. This is particularly true for vaccine compositions that are administered to animals, such as poultry. Because the composition of claim 1 is "substantially free" of bacterial contaminants, including non-viable bacterial contaminants, there is a lower risk that an animal administered the vaccine of claim 1 will undergo a pyrogenic reaction when compared to the vaccine composition disclosed by the '233 application. Accordingly, the Applicants submit that the composition of claim 1 has an unexpected and unique property that further distinguishes it from the composition disclosed by the cited reference.

In addition to the distinguishable structural features of the claim 1 composition and the composition disclosed by the '233 application, nowhere does the cited art disclose or suggest adding a surfactant to reduce oocysts aggregation. In fact, nowhere does the '233 application recognize that oocysts aggregation is a problem.

Resort to Smith et al. does not cure this defect in the Office's obviousness rejection. The disclosure of Smith et al. is detailed in IV (a). A skilled artisan would not be motivated to combine the disclosure of Smith with that of the '233 application to arrive at claim 1. First, the oocysts disclosed by Smith et al. are structurally distinct from either the oocysts of claim 1 or as disclosed in the '233 application. The Smith et al. oocysts, unlike the oocysts of claim 1 or the '233 application, were not oxidized to induce sporulation. Next, as recited in IV (a), Smith is not analogous art to the present application, and as such would not provide the requisite motivation to a skilled artisan to combine reference teachings. Importantly, even if the disclosures of the '233 application and Smith et al are combined; a skilled artisan would not arrive at the invention defined by claim 1. Simply put, both Smith et al. and the '233 application disclose compositions that are structurally distinguishable from the sporulated oocysts of claim 1 and thus, their combination cannot render

[20] *In re Bergstrom*, 427 F.2d 1394, 166 USPQ 256, 262 (CCPA 1970).

claim 1 obvious because they do not-taken either singly or collectively-disclose all of the elements required by claim 1.

In view of the foregoing, the Applicants respectfully request withdrawal of the obviousness rejection of claim 1. Claims 2-7, 11-15, 17-19, and 21, which depend from claim 1, are likewise not obvious in view of the cited art for the reasons provided with respect to claim 1.

(c) Claims 1-7, 11-15, 17-19, and 21-24 are not rendered obvious by the cited art

Reconsideration is requested of the rejection of claims 1-7, 11-15, 17-19, and 21-24 under 35 U.S.C. 103 (a) in view of WO 96/40233 ('233 application), Smith et al., U.S. Patent No. 6,344,340 ('340 patent), and Clark et al.[21]

Claim 1 is not rendered obvious in view of either the '233 application or the Smith et al. reference for the reasons detailed in IV (b). Resort to either the '340 patent or Clark et al. does not cure the defect in the Office's obviousness rejection – even if the references disclose exactly what the Office asserts they do. In particular, the Office asserts that the '340 patent discloses sporulated oocysts in PBS containing gentamicin, and that Clark et al. disclose protozoan parasites in PBS. Nowhere do either of the '340 patent or Clark et al. disclose or suggest a composition comprising sporulated oocysts and a surfactant that prevents oocysts aggregation. As stated in IV (b), neither Smith et al. nor the '233 patent-whether taken singly or collectively-disclose all of the recited elements of claim 1. Importantly, the disclosure of Smith et al. is not analogous prior art. As such, no motivation exists for their combination. Because the cited art does not disclose each limitation of claim 1, the Office has not established a *prima facie* case of obviousness.

In view of the foregoing, the Applicants respectfully request withdrawal of the obviousness rejection of claim 1. Claims 2-7, 11-15, 17-19, and 21-24, which

[21] Clark et al., PNAS (1996) 93:6825-6829.

depend from claim 1, are likewise not obvious in view of the cited art for the reasons provided with respect to claim 1.

(d) Claims 1-7, 11-13, 17-19, and 21-24 are not rendered obvious by the cited art

Reconsideration is requested of the rejection of claims 1-7, 11-13, 17-19, and 21-24 under 35 U.S.C. 103 (a) in view of U.S. Patent No. 4,808,404 ('404 patent), Smith et al., U.S. Patent No. 6,344,340 ('340 patent), and Clark et al.

Claim 1 is not rendered obvious in view of either the '404 application or the Smith et al. reference for the reasons detailed in IV (a). Resort to either the '340 patent or Clark et al. does not cure the defect in the Office's obviousness rejection – even if the references disclose exactly what the Office asserts they do. In particular, the Office asserts that the '340 patent discloses sporulated oocysts in PBS containing gentamicin, and that Clark et al. disclose protozoan parasites in PBS. Nowhere do either of the '340 patent or Clark et al. disclose or suggest a composition comprising sporulated oocysts and a surfactant that prevents oocysts aggregation. As stated in IV (a), neither Smith et al. nor the '404 patent-whether taken singly or collectively-disclose all of the recited elements of claim 1. Importantly, the teaching of the '404 patent is actually away from the presently claimed invention, and the disclosure of Smith et al. is not analogous prior art. In view of this, no motivation exists for their combination. Because the cited art does not disclose each limitation of claim 1, the Office has not established a *prima facie* case of obviousness.

In view of the foregoing, the Applicants respectfully request withdrawal of the obviousness rejection of claim 1. Claims 2-7, 11-15, 17-19, and 21-24, which depend from claim 1, are likewise not obvious in view of the cited art for the reasons provided with respect to claim 1.

(e) Claims 1-7, 8-13, 17-19, and 21 are not rendered obvious by the cited art

Reconsideration is requested of the rejection of claims 1-7, 8-13, 17-19, and 21 under 35 U.S.C. 103 (a) in view of U.S. Patent No. 4,808,404 ('404 patent), Smith et al., and U.S. Application No. 2004/0248793 ('793 application).

Claim 1 is not rendered obvious in view of either the '404 application or the Smith et al. reference for the reasons detailed in IV (a). Resort to the '793 application does not cure the defect in the Office's obviousness rejection. The '793 application discloses "Factor VII polypeptide can be obtained by the addition of surfactants." As such, the '793 application discloses that a particular type of polypeptide, i.e., Factor VII, may be **stabilized** by the addition of surfactant. Importantly, nowhere does the '793 application disclose or suggest that a surfactant can be used to minimize aggregation (of even the polypeptide), and nowhere does it disclose or suggest use of a surfactant in combination with sporulated oocysts, as required by claim 1. Moreover, as stated in IV (a), neither Smith et al. nor the '404 patent-whether taken singly or collectively-disclose all of the recited elements of claim 1. Importantly, the teaching of the '404 patent is actually away from the presently claimed invention, and the disclosure of Smith et al. is not analogous prior art. In view of this, no motivation exists for their combination or their further combination with the '793 application. Because the cited art does not disclose each limitation of claim 1, the Office has not established a *prima facie* case of obviousness.

In view of the foregoing, the Applicants respectfully request withdrawal of the obviousness rejection of claim 1. Claims 2-7, 8-13, 17-19, and 21, which depend from claim 1, are likewise not obvious in view of the cited art for the reasons provided with respect to claim 1.

(f) Claims 1-7, 8-15, 17-19, and 21 are not rendered obvious by the cited art

Reconsideration is requested of the rejection of claims 1-7, 8-15, 17-19, and 21 under 35 U.S.C. 103 (a) in view of WO 96/40233 ('233 application), Smith et al., and U.S. Application No. 2004/0248793 ('793 application).

Claim 1 is not rendered obvious in view of either the '233 application or the Smith et al. reference for the reasons detailed in IV (b). Resort to the '793 application does not cure the defect in the Office's obviousness rejection. The disclosure of the '793 application is set forth in IV (e). At most, the '793 application discloses that certain types of polypeptide compositions can be stabilized by surfactant. Nowhere does the '793 application disclose or suggest the elements required by claim 1. As stated in IV (b), neither Smith et al. nor the '233 patent-whether taken singly or collectively-disclose all of the recited elements of claim 1. Importantly, the disclosure of Smith et al. is not analogous prior art. As such, no motivation exists for their combination or their further combination with the '793 application. Because the cited art does not disclose each limitation of claim 1, the Office has not established a *prima facie* case of obviousness.

In view of the foregoing, the Applicants respectfully request withdrawal of the obviousness rejection of claim 1. Claims 2-7, 8-15, 17-19, and 21, which depend from claim 1, are likewise not obvious in view of the cited art for the reasons provided with respect to claim 1.

V. Conclusion

In light of the foregoing, the Applicants request entry of the amendments to the claims, withdrawal of the claim rejections, and solicit an allowance of all pending claims.

Respectfully submitted,
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